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Introducing Science to the Psychology of the Soul

Experimental Existential Psychology

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ABSTRACT—*Humans live out their lives knowing that their own death is inevitable; that their most cherished beliefs and values, and even their own identities, are uncertain; that they face a bewildering array of choices; and that their private subjective experiences can never be shared with another human being. This knowledge creates five major existential concerns: death, isolation, identity, freedom, and meaning. The role of these concerns in human affairs has traditionally been the purview of philosophy. However, recent methodological and conceptual advances have led to the emergence of an experimental existential psychology directed toward empirically investigating the roles that these concerns play in psychological functioning. This new domain of psychological science has revealed the pervasive influence of deep existential concerns on diverse aspects of human thought and behavior.*

KEYWORDS—*death; isolation; identity; freedom; meaning*

Humans possess far more sophisticated intellectual abilities than other animals do, including a greatly enhanced capacity for self-reflection. This capacity is highly adaptive because it enables people to develop complex strategies for dealing with risks and opportunities in their environment. However, self-reflection also leads people to realize that death is inevitable; that their most sacred beliefs and values, and even their own identities, are uncertain; that they face a bewildering array of choices in their lives; and that in many ways they are alone in an indifferent universe. Existential psychology seeks to understand how people somehow come to terms with these basic facts of life and how these issues affect diverse aspects of their behavior and experience (Yalom, 1980).

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Many of the early influential figures in psychology, such as Wilhelm Wundt, Edward Titchener, Sigmund Freud, William James, John Dewey, Otto Rank, and Gordon Allport, used an existential perspective in their work. However, with the growing emphasis on studying overt behavior over the course of the 20th century, the science of psychology shifted away from people's existential concerns, dismissing them as too vague and subjective to be addressed by scientific methods. But no more: A new direction for psychological science has emerged, one that considers the human confrontation with deep existential issues to be an essential factor in diverse forms of human behavior and that uses rigorous experimental methods to explore these processes. This discipline has become known as *experimental existential psychology* (XXP; Greenberg, Koole, & Pyszczynski, 2004).

THE EXISTENTIAL PSYCHOLOGY OF EVERYDAY LIFE

The psychological confrontation with deep existential concerns occurs most dramatically in the aftermath of extreme negative events—whether personal ones, such as a devastating accident, life-threatening illness, or untimely death of a loved one, or more globally significant ones like the terrorist attacks of 9/11. In the absence of such extreme events, most people only occasionally consciously consider deep existential concerns, though some people consciously ponder these issues more than others. Yet existential philosophers have maintained that existential concerns exert a pervasive influence on human behavior regardless of whether people realize it or not.

As long as existential concerns could only be observed through introspection, it was impossible to determine what impact they had on behavior. Fortunately, recent advances in experimental psychology have furnished the necessary tools to analyze unconscious sources of human behavior, and experimental existential psychologists have been applying these tools to explore how people respond to reminders of these daunting

facts of life. One of the most important tools has been the priming method, in which the effect of exposure to stimuli (primes) on people's behavior is observed. Subtle priming events such as completing a word puzzle or seeing a picture can influence people's thoughts, feelings, and actions, even when they are unaware of any such influence. For instance, after completing a puzzle with achievement-related words, people display more achievement motivation and judge other people's behavior as more achievement oriented (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001). Other useful experimental techniques include measures that can indirectly assess people's attitudes or beliefs, for instance via response times. Because implicit measures do not rely on introspection, they can probe the unconscious processes that affect people's judgments and behavior.

The existential concerns that are activated by experimental techniques are generally of low emotional intensity. This suggests that the results of XXP may be relevant mostly for understanding people's normal functioning and everyday struggles in the absence of an acute existential crisis—indeed, most work in this area is focused on such normal functioning. Whether the psychological processes activated by powerful existential crises are qualitatively different from those involved in people's everyday existential struggles remains an open question. However, Pyszczynski, Solomon, and Greenberg (2003) observed that the reactions of the American public to the highly traumatic terrorist attacks of 9/11 were quite similar to the reactions to subtle experimental reminders of death found in many laboratory studies over the decade prior to the attacks. Thus, although the intensity of people's existential concerns is likely to be lower in the laboratory than during extreme life events, the underlying psychological processes may be similar.

THE BIG FIVE EXISTENTIAL CONCERNS

Since the 1980s, hundreds of experiments have examined people's psychological reactions to the confrontation with deep existential concerns. This first generation of experimental existential research has highlighted five major existential concerns, summarized in Table 1. These "big five" concerns represent some of the most profound and universal existential conflicts that people must face, and echo the works of diverse philosophers and artists across the ages.

The problem of death has been one of the most widely studied issues in XXP. Most of this research has used the *mortality salience paradigm* (Pyszczynski et al., 2003), in which some participants are reminded of their own mortality. This is accomplished in a variety of ways, but the most common method is to ask participants to respond to two brief prompts about their own death (e.g., "Please describe the emotions the thought of your own death arouses in you"). Control groups receive parallel questions about a neutral topic (e.g., watching television) or, more commonly, an aversive topic that is unrelated to death (e.g., failing an exam, experiencing pain). Over 200 experiments have shown that heightened mortality salience leads people to engage a systematic set of *terror management defenses*, which help them manage the potential for terror that the threat of death can arouse.

People's initial, conscious reaction to mortality salience is to deny their personal vulnerability to impending death (e.g., "I am a healthy person, death is far off") and to suppress further death-related thoughts (Pyszczynski et al., 2003). However, once death concerns are no longer in focal attention, people exhibit an increase in the accessibility of death-related thought. For example, they become quicker to recognize death-related words on a computer screen and are more likely to complete word

TABLE 1
The "Big Five" Existential Concerns, the Existential Problems They Represent, and Experimental Paradigms for Studying Them

Concern	Existential problem	Illustrative paradigms
Death	Awareness of inevitability of death vs. desire for continued existence	Mortality salience (Pyszczynski et al., 2003)
Isolation	Need to feel connected to others vs. experiences of rejection and the realization that one's subjective experience of reality can never be fully shared	Ostracism (Eisenberger et al., 2000); I-sharing (Pinel et al., 2006)
Identity	A clear sense of who one is and how one fits into the world vs. uncertainties because of conflicts between self-aspects, unclear boundaries between self and non-self, or limited self-insight	Self-discrimination (Kuhl & Kazén, 1994); identity consolidation (McGregor, in press)
Freedom	Experience of free will vs. external forces on behavior and the burden of responsibility for one's choices in response to a complex array of alternatives	Intrinsic vs. extrinsic reward (Ryan & Deci, 2000); choice (Iyengar & Lepper, 2000)
Meaning	Desire to believe life is meaningful vs. events and experiences that appear random or inconsistent with one's bases of meaning	Coherence formation (Baumann & Kuhl, 2002); threats to meaning (Davis & McKearney, 2003)

fragments with death-related words (e.g., "coffin" for coff _ _). This heightened death-thought accessibility then triggers terror management defenses, which seem logically unrelated to the problem of death but bolster people's faith in their cultural worldviews and personal self-worth. For instance, mortality salience causes American participants to react more negatively towards individuals who criticize the USA and more positively towards individuals who praise the USA. It also leads to increased strivings for self-esteem, such as greater efforts to enhance one's physical attractiveness and display one's physical strength.

These terror management defenses have been observed in many countries (e.g., Australia, Germany, Iran, Israel, Japan, The Netherlands, and the United States); and they influence a broad range of social behaviors and attitudes regarding nationalism, prejudice, stereotyping, aggression, aesthetic and political preferences, social justice, sex and other bodily activities, and interpersonal relations (Pysczynski et al., 2003). Such symbolic defenses strengthen people's view of themselves as valuable contributors to a meaningful world rather than as mere animals, and thereby enable them to avert the potential for anxiety that results from their awareness of the inevitability of death. Indeed, mortality salience does not trigger symbolic terror management defenses if people have been convinced that there is scientific evidence of a literal afterlife.

Isolation from others is a second major existential concern. Social exclusion experiences such as separation from loved ones or ostracism serve as potent reminders that one is fundamentally alone and separate from others. Indeed, recent experiments indicate that social exclusion potentiates the same brain systems that mediate physical pain (Eisenberger, Lieberman, & Williams, 2003). Even when friends and family are physically present, the unbridgeable gap between individuals' subjective worlds can lead people to feel existentially isolated. These feelings of isolation are temporarily relieved when people encounter others who appear to share their subjective experiences, a phenomenon known as *I-sharing* (Pinel, Long, Landau, Alexander, & Pyszczynski, 2006). I-sharing can be experimentally manipulated by having individuals share a subjective reaction (e.g., giggling simultaneously). Consistent with the existential function of I-sharing, people who are reminded of their existential isolation are especially attracted to I-sharers. The desire for shared subjective experiences thus leads people to feel a deep existential connection with others who appear to share their subjective experiences.

A third major existential concern is personal identity. Although identity crises seem particularly common in adolescence, people often struggle to integrate their diverse experiences to create and maintain a consistent sense of who they are and how they fit into the world throughout their life spans. A sophisticated experimental paradigm that investigates identity confusion is the *self-discrimination task* (Kuhl & Kazén, 1994). In this task, participants have to perform a number of activities that are either assigned or self-chosen. Identity confusion is indicated when, later on, participants misremember assigned activities as self-chosen. Such false memories are indeed more prevalent among individuals who experience high levels of identity confusion in their everyday lives (i.e., chronic ruminators, Kuhl & Kazén, 1994). Apparently, one important aspect of identity construction consists of differentiating one's own inner self from external influences (cf. Ryan & Deci, 2000).

To alleviate the threat to identity posed by undesirable or inconsistent information about the self, people use a wide variety of tactics, including distorting their perceptions of self and affirming or exaggerating unrelated but valued aspects of self. For example, McGregor (in press) has demonstrated that people respond to uncertainties in their identities by becoming more zealous in their attitudes and exhibiting greater certainty in their self-concepts, as exhibited by faster response latencies to me/not-me decisions. Such self-affirmations can even insulate people from stress, as indicated by lower levels of stress hormones (cortisol) after performing a stressful task (Creswell et al., 2005).

A fourth major existential concern is freedom. A large body of research inspired by reactance theory (cf., Brehm & Brehm, 1980) has shown that threats to freedom create an aversive psychological state (reactance) that motivates people to restore and reassert their freedom. Research on self-determination theory (Ryan & Deci, 2000) has shown that the presence of external incentives to action undermines perceptions of choice and intrinsic motivation. Moreover, people who experience their actions as freely willed report more fulfilling relationships and greater well-being than do those who experience their actions as externally controlled. Freedom can also have negative consequences. Recent experiments have found that people are more satisfied with their choices if they have a small rather than a large number of options to choose from (Iyengar & Lepper, 2000). Unrestrained freedom may thus promote a sense of groundlessness and indeterminacy.

The problem of meaning arises from the first four existential concerns. In a world where the only real certainty is death, where one can never fully share one's experiences with others, where one's identity is uncertain, and where one is prodded by external forces while facing a bewildering array of choices, what meaning does life have? Research has documented the ways in which traumatic experiences threaten people's sense of life's meaning (e.g., Janoff-Bulman & Yopyk, 2004). More importantly, this line of research has shown that those survivors of trauma who manage to reconstruct a meaningful view of the world and of their own lives often experience considerable personal growth and an increased appreciation of life.

Consistent with these correlational findings, both asking people to recall a trauma and challenging people's basis for viewing life as meaningful lead to a compensatory increase in their reports that their lives are meaningful (Davis & McKearney, 2003). Recent experiments also suggest that the creation of

meaning is at least partly driven by unconscious processes. More specifically, people can intuitively sense the presence of meaningful relationships between stimuli, even when they cannot logically explain these relationships (Baumann & Kuhl, 2002). Although people often cannot articulate what makes their lives meaningful, clearly—as portrayed by existential writers such as Fyodor Dostoevsky, Albert Camus, and Milan Kundera—maintaining a meaningful view of life is a central human concern.

TOWARD A NEW SCIENCE OF THE SOUL

The human struggle with the givens of existence has captured the imagination of poets, prophets, and philosophers across the ages. Experimental psychologists are now studying people's existential concerns using the rigorous methods of psychological science. The first generation of research in XXP has produced incontrovertible evidence that the confrontation with existential issues exerts a pervasive—albeit often unconscious—influence on human behavior. One important challenge for the next generation of research is a further integration of existential psychology and cognitive neuroscience. For instance, models of parallel-distributed processing may illuminate the basic mechanisms that underlie the creation and maintenance of meaning. More generally, research may clarify the role of brain regions associated with self-reflection and contemplation of the future in the generation of existential threat, and the role of the amygdalae or other limbic structures in responses to such existential threat (see also McGregor, in press).

Another challenge will be to apply the insights of XXP in everyday life. Psychotherapists have long recognized the value of an existential perspective (Yalom, 1980). It could be useful to systematically assess the role of the big five concerns in different clinical disorders and the extent to which therapists with different types of training focus on them. XXP may thus promote the development of new, scientifically grounded forms of psychotherapy.

The strength of the five existential concerns may vary over the lifespan and between individuals. This could be examined by assessing an individual's defensiveness when each of the five concerns is threatened, or by coding autobiographies people prepare, or books, movies, and music people value, for the presence of existential themes. The relative prominence of each concern may affect, for example, the individual's goal strivings and political preferences. Future research should also be directed toward how the five existential concerns relate to each other. For example, does isolation undermine meaning? Does an increased sense of freedom strengthen or weaken an individual's sense of identity?

The XXP perspective also has wide-ranging social implications. At a time in history when clashes between cultures, ideologies, religions, and national and ethnic groups threaten to plunge the planet into chaos, XXP illuminates the psychological forces that promote such fierce allegiance to these systems of meaning and the readiness to annihilate those with different perspectives. We are hopeful that XXP will bear even more fruit in the years to come, promoting greater authenticity and benevolence in human affairs.

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